1. A purified nucleic acid comprising a nucleotide sequence that encodes a naturally occurring protein that: (a) shares at least 80% sequence identity with SEQ ID NO:2 and (b) has at least one functional activity of native XB3.

2. The nucleic acid of claim 1, wherein the nucleotide sequence defines a polynucleotide whose complement hybridizes under high stringency conditions to the nucleotide sequence of SEQ ID NO:1.

3. The nucleic acid of claim 1, wherein the protein has an amino acid sequence consisting of SEQ ID NO:2.

4. The nucleic acid of claim 1, wherein the protein specifically binds to XA21.

5. A vector comprising the nucleic acid of claim 1.

6. The vector of claim 5, wherein said nucleic acid is operably linked to one or more expression control sequences.

7. A cell comprising the nucleic acid of claim 1.

8. A purified protein that: (a) comprises an amino acid sequence that shares at least 80% sequence identity with SEQ ID NO:2 and (b) has at least one functional activity of native XB3.

9. The protein of claim 8 whose amino acid sequence is SEQ ID NO:2.

10. The protein of claim 8, wherein the protein is a fused heterologous polypeptide.

11. A purified protein comprising a polypeptide selected from the group consisting of amino acid residues 1-10 of SEQ ID NO:2; amino acid residues 11-305 of SEQ ID NO:2; and amino acid residues 319-385 of SEQ ID NO:2.

12. A purified antibody that specifically binds to the protein of claim 8.

13. The antibody of claim 12, further comprising a detectable label.

14. A screening method for identifying a substance that modulates binding of an XB3 protein to XA21, the method comprising the steps of:

(a) providing a sample containing the XB3 protein;

(b) adding to the sample a candidate substance;

(c) adding to the sample XA21; and

(d) detecting an increase or decrease in binding of the XB3 protein to XA21 in the presence of the candidate substance, compared to the binding of the XB3 protein to XA21 in the absence of the candidate substance, as an indication that the candidate substance modulates binding of XB3 protein to XA21.

15. A method of producing an XB3 protein comprising the steps of:

(a) providing a cell transformed with an isolated nucleic acid comprising a nucleotide sequence that encodes an XB3 protein;

(b) culturing the cell under conditions that allow expression of the XB3 protein; and

(c) collecting the XB3 protein from the cultured cell.

16. A screening method for identifying a substance that modulates expression of a gene encoding XB3, the method comprising the steps of :

(a) providing a test cell;

(b) contacting the test cell with a candidate substance; and

(c) detecting an increase or decrease in the expression level of the gene encoding XB3 in the presence of the candidate substance, compared to the expression level of the gene encoding XB3 in the absence of the candidate substance, as an indication that the candidate substance modulates the level of expression of the gene encoding XB3.

17. A method for isolating a substance that binds XB3 comprising the steps of:

(a) providing a sample of an immobilized XB3;

(b) contacting a mixture containing the XB3-binding substance with the immobilized XB3;

(c) separating unbound components of the mixture from bound components of the mixture; and

(d) recovering the XB3-binding substance from the immobilized XB3 protein.

18. The method of claim 17, wherein the XB3-binding substance is XA21.

19. A method of modulating disease resistance in a plant cell or seed, the method comprising the steps of:

(a) providing a plant cell or seed having a first disease resistance phenotype;

(b) introducing into the plant cell or seed a purified nucleic acid comprising a nucleotide sequence that encodes a naturally occurring protein that: shares at least 80% sequence identity with SEQ ID NO:2 and has at least one functional activity of native XB3 to create a transformed plant cell or seed,

wherein the purified nucleic acid is selected such that it produces a second disease resistance phenotype in the transformed plant cell or seed that differs from the first disease resistance phenotype.

20. The method of claim 19, wherein the naturally occurring protein lacks at least one functional activity of native XB3 selected from the group consisting of: ability to bind XA21, ability to be phosphorylated by XA21, and ubiquitin ligase activity.

21. A method of modulating disease resistance in a plant cell or seed, the method comprising the steps of:

(a) providing a plant cell or seed having a first disease resistance phenotype;

(b) introducing into the plant cell or seed a purified nucleic acid that modulates expression of native XB3 to create a transformed plant cell or seed,

wherein the purified nucleic acid is selected such that it produces a second disease resistance phenotype in the transformed plant cell or seed that differs from the first disease resistance phenotype.

22. The method of claim 21, wherein the purified nucleic acid hybridizes under stringent hybridization conditions to a nucleic acid selected from the group consisting of SEQ ID NO:1 and the complement of SEQ ID NO:1.

23. A method of modulating disease resistance in a plant cell or seed, the method comprising the steps of:

(a) providing a plant cell or seed having a first disease resistance phenotype;

(b) introducing into the plant cell or seed a purified nucleic acid that encodes a polypeptide that inhibits a functional activity of native XB3 to to create a transformed plant cell or seed;

(c) culturing the transformed plant cell or seed under conditions in which the polypeptide is expressed,

wherein expression of the polypeptide in the transformed plant cell or seed produces a second disease resistance phenotype in the transformed plant cell or seed that differs from the first disease resistance phenotype.

24. The method of claim 23, wherein the polypeptide shares at least 80% sequence identity with SEQ ID NO:2 and has at least one functional activity of native XB3.